

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Original): A data processing method, wherein:

digital data is processed in bytes to constitute one information data block in  $(M \times N)$  bytes of  $M$  rows and  $N$  columns;

data is arranged in bytes in the information data block, so that data is arranged in the data transmission order from the  $0^{\text{th}}$  column to the  $(N-1)$ -th column for each row while data is arranged in the data transmission order from the  $0^{\text{th}}$  row to the  $(M-1)$ -th row;

$(K \times M)$  rows  $\times$   $N$  columns matrix block is further arranged which is a set of the information data block, and which is constituted of  $K$  information data blocks composed of information data blocks from the  $0^{\text{th}}$  information data block to the  $(K-1)$ -th information data block which continue in the data transmission order;

on each column of  $(K \times M)$  bytes of the matrix block an error-correcting word PO-a  $(K \times Q)$  or PO-a  $((K/2) \times Q)$  bytes is created at least with respect to only even-number data  $(K \times M/2)$  bytes, and an error-correcting word PO-b  $(K \times Q)$  or PO-b  $((K/2) \times Q)$  bytes is created at least with respect to only odd number data  $(K \times M/2)$  bytes;

PO-a and PO-b is scattered and arranged into  $K$  information data blocks which is constituted of  $(M \times N)$  bytes of  $M$  rows and  $N$  columns;

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each column of  $N$  columns is formed as  $(K \times (M + Q))$  or  $(K \times (M + 2Q))$  bytes of Reed-Solomon code  $PO$  ( $Q$  is an integer of 1 or more); and

the error-correcting word  $P$  bytes is further added for each row of  $N$  bytes and each row of  $(K \times (M + Q))$  or  $(K \times (M + 2Q))$  rows is formed as  $(N + P)$  byte Reed-Solomon code  $PI$ ;

whereby as an overall block an error-correcting product code block is realized which constitutes  $(K \times (M + Q) \times (N + P))$  or  $(K \times (M + 2Q) \times (N + P))$  bytes Reed-Solomon error-correcting word having  $K$  information data block of  $(K \times M \times N)$  bytes as information position.

Claims 2-24 (Canceled)